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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/706,227

11/03/2000

Erling H. Wold

AMC-00-003

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EXAMINER

OPSASNICK, MICHAEL N

ART UNIT

PAPER NUMBER

2626

MAIL DATE

DELIVERY MODE

09/17/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

09/706,227

**Applicant(s)**

WOLD ET AL.

**Examiner**

Michael N. Opsasnick

**Art Unit**

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 45-60 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 45-60 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 45-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schulze (4918730) in view of Blum et al (5918223) in view of Savic et al (5327521) in further view of Voran (6092040).

As per claims 45,47,48, Schulze (4918730) teaches a method (col. 9 lines 45-55), apparatus (figs. 1-4), and storage medium (col. 4 lines 15-27 -- RAM for storing processing results, and other storage mediums) for creating a signature of sampled work (examiner notes that the claim scope of 'sampled work' is an audio signal, applicant's specification, page 1, and page 3 line 20 – page 4 line 2) in real time comprising receiving a sampled work (as digitizing the audio signal -- col. 4 lines 10-15, 25-34)

“segmenting said sampled work.....segments....hop sizes” as storing time segments of the envelope signal (abstract), wherein the segment is preferably 1.7 seconds and the envelope size has a predetermined range (hop, size, col. 2 lines 42-47)

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“creating a plurality of signatures.....segments.....includes calculations of a plurality of acoustic features.....coefficients” as generating envelop signatures (col. 1 lines 48-55; and a further correlation function → col. 9 lines 28-45)

“storing said sampled work signature” as storing the envelope signature (abstract)

Schulze (4918730) does not explicitly teach the use of a reference database storing representative signatures for each of a plurality of known works (Schulze (4918730) teaches storing the current envelope signature – abstract), however, Blum et al (5918223) teaches the use of such database to store signatures (Blum et al (5918223), abstract). Therefore, it would have been obvious to one of ordinary skill in the art of audio signature comparison to expand the memory structure of Schulze (4918730) into an accessible database because it would advantageously allow for the storage of multiple audio signatures, therefore improving upon the number of audio signatures that can be recognized (Blum et al (5918223), col. 1 lines 44-52).

The combination of Schulze (4918730) in view of Blum et al (5918223) does not explicitly teach the hop size (i.e. overlap), however, Savic et al (5327521) teaches the use of analyzing overlapping segments for speech/audio data (col. 4 lines 36-43). Therefore, it would have been obvious to one of ordinary skill in the art of speech/audio signal processing to modify the processing technique as taught by Schulze (4918730) in view of Blum et al (5918223) with overlapped signal processing because it would advantageously produce a smooth spectrum (col. 4 lines 63-65), as well as customizing time resolution capability (Savic et al (5327521), col. 7 lines 3-15).

The combination of Schulze (4918730) in view of Blum et al (5918223) in view of Savic et al (5327521) teaches the differing hop sizes, but to be used on subsections of a single signal. Voran (6092040), however, teaches using different hop sizes when comparing test signals to references signals (col. 8 line 60 – col. 11 line 44). Therefore, it would have been obvious to one of ordinary skill in the art of signal testing to modify the combination of Schulze (4918730) in view of Blum et al (5918223) in view of Savic et al (5327521) with comparing differing signals of different hop sizes because it would be an effective way to measure/distinguish speech devices (Voran (6092040), fig. 2, 3, col. 4 lines 15-58).

As per claims 46, Schulze (4918730) teaches calculating envelop features for each segment (col. 7 lines 50-65).

As per claim 49, Schulze (4918730) teaches a plurality of segments and an identification portion (abstract).

As per claim 50, Schulze (4918730) teaches a segment size of 1.7 seconds (col. 1 lines 52-58).

As per claim 51, Schulze (4918730) teaches the hop size to be less than 50% of the segment size (Schulze (4918730) teaches a range of 2 Hz to 50 Hz, which is less than 1/1.7 seconds; col. 2 lines 1-2).

As per claim 52, Schulze (4918730) teaches a hop size of around .1 seconds (a .1 second hop size corresponds to 10 Hz, which falls in the range of 2-50 Hz, as taught Schulze (4918730), col. 2 lines 1-2).

Claims 53 – 60 are apparatus claims that incorporate the claimed method steps of claims 45-52 and are therefore similar in scope as claims 45-52; therefore, claims 53-60 are rejected under similar rational as presented above in the rejection of claims 45-52.

### ***Response to Arguments***

3. Applicant's arguments received 6/27/07 have been fully considered but they are not persuasive. As per applicant's arguments on page 8 of the response, examiner notes that in the art rejection, Schulze does teach hop size, however, it is the combination of the four references that teaches differing hop sizes of the reference works compared to the sampled work. With respect to the arguments against the Savic reference, examiner again notes that the Savic reference is not relied upon to teach differing hops sizes. With respect to the arguments that Voran does not teach different hop sizes, examiner disagrees and argues that the time offset discussion in col. 8 line 60 – col. 11 line 40(the amount of offset dependent upon the different parameters of the original signal) is in effect a time distortion which is equivalent to different hop sizes. With respect to the argument against motivation to combine the references (page 10 of the response), examiner notes that the motivation provided has been explicitly derived from the references themselves.

***Conclusion***

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Opsasnick, telephone number (571)272-7623, who is available Tuesday-Thursday, 9am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Richemond Dorvil, can be reached at (571)272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

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may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**MICHAEL OPSASNICK**  
**PRIMARY EXAMINER**

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09/12/07